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10/808,767	03/24/2004	John Ernest Rodriguez	6783P053	5910

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EXAMINER

ZHE, MENG YAO

ART UNIT	PAPER NUMBER
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2195

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/808,767

Applicant(s)

RODRIGUEZ, JOHN ERNEST

Examiner

MengYao Zhe

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-31 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-19, 31 recites an "apparatus", "monitor"; however, it appears that the apparatus would reasonably be interpreted by one of ordinary skill in the art as software, per se, failing to be tangibly embodied or include any recited hardware as part of the apparatus.

Claims 1-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. § 101 for method claims and claims that recite a judicial exception (software) is that the claimed invention recite a practical application and not be directed to an abstract idea. Practical application is shown by physical transformation or must provide a useful, concrete, and tangible result. The invention, however, is not directed to executing task to tracking their current rate of completion, calculating the average of this completion rate and then comparing these values to further perform an action, but to the abstract concept of such and not to a practical application of this idea (see MPEP2106).

For instance, claim 20 details a comparison step and an action step wherein a current average rate of task completion is compared to an average of averages and if it is greater, the number of tasks is reduced. This is the idea of the invention and not a practical application wherein a plurality of tasks are executing on the system, then the system or a third-party entity measures and calculates the average of task completion, and however the average of averages is measured, wherein based on a comparison on these calculated values, the execution of some of the task is ceased, or a number of connections are removed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, lines 2-3, it is unclear how queues are used to track rate of task completions <i.e. is there a monitor that calculates rate of task completion at specified time intervals, and the result of the calculation gets queued up one after another?>. Furthermore, it is ambiguous as to what is meant by "a current rate of task completion"

<i.e. is it how much time it's taking to finish a task? Or is it the amount of tasks finished per second?>. Lines 4-5, it is unclear how the "average of the first queue" and the "average of the second queue" is calculated and compared <i.e. does each queue hold multiple data points? If so, do all data points in each queue get averaged after the queue has reached its maximum capacity? Are the entries averaged?>

Claim 10, line 1, it is uncertain what "a FIDO monitor" is <i.e. what does FIDO stand for?>. Lines 2-3, it is unclear how one may obtain "an average rate of task completion" and an "average of the average rates of task completion" <i.e. Are instantaneous rate of task completion computed every second? And then these instantaneous rates get averaged to obtain "an average rate of task completion" at regular intervals? Then, at different intervals, all average rate of task completion data points existing at the end of the interval get averaged again for comparison? If so which data point from the multiple average rate of task completion does the average of average rates of task completion get compared to?>. Furthermore, it is ambiguous as to what is meant by "a current rate of task completion" <i.e. is it how much time it's taking to finish a task? Or is it the amount of tasks finished per second?>.

Claims 20 and 31 have the same deficiencies as claim 10 above.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim languages are unclear and indefinite:

i) Claim 4, it is unclear how this step is performed <i.e. What does it mean to add an average of a queue to another queue? What specific steps are performed to do this?>

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al., Patent No. 6,314,463 (hereafter Abbott) in view of Cooperative Scheduling of Tasks for Networked Uninhabited Autonomous Vehicles, Alvaro Gil Devin Passino, Andrew Sparks, IEEE, 2003 (hereafter Sparks).

10. As per claims 10, 20, 31, Abbott teaches a FIDO monitor comprising: a comparator to compare an average rate of task completion with a threshold (Column 26, lines 36-43);

the throttle to reduce the number of tasks executed by an apparatus coupled to the throttle if the average rate of task completion is higher than the threshold (Column 7, lines 50-61; Column 10, lines 24-28; Column 17, lines 39-49; Column 26, lines 36-43).

Abbott does not specifically teach that the threshold is the average of the second queue, which is essentially the average of average rates of task completion over time.

However, Sparks teaches a way of tracking the average of the averages of task waiting time for the purpose of setting a bound or thresholds on performance metrics that are used for cooperative scheduling on multi-tasking system performance (Pg 526, right column, second paragraph; Abstract). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott where number of connections are reduced if the average of task completion is larger than a threshold, with tracking the average of averages of task performance characteristics, as taught by Spark, such that bound (or the thresholds) on performance metrics are used for cooperative scheduling (abstract).

11. As per claim 19, Abbott teaches wherein the throttle further increases the number of connections available if the average rate of task completion is lower than the average of the average rates of task completion (Column 8, lines 30-49).

12. As per claims 1, 12, 15, Abbott teaches an apparatus comprising: tracking a current rate of task completion (Column 24, lines 40-42; Column 26, lines 7-8); tracking an average rate of task completion over time (Column 26, lines 3-4);

a comparator to compare an average of the current rate of task completion and a threshold (Column 26, lines 36-43);

a throttle to reduce the number of connections available on the apparatus if the comparator indicates that the average of the current rate of task completion is larger than the threshold (Column 7, lines 50-61; Column 10, lines 24-28; Column 17, lines 39-49; Column 26, lines 36-43).

Abbott does not specifically teach using two queues to each track a current rate of task completion and an average rate of task completion over time.

However, Abbott teaches using queues for the purpose of monitoring load information on the system (Column 14, lines 1-15). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott with using queues to track current rate of task completion and an average rate of task completion over time, because queues allow for a way to monitor load information on the system.

Abbott does not specifically teach that the threshold is the average of the second queue, which is essentially the average of average rates of task completion over time.

However, Sparks teaches a way of tracking the average of the averages of task waiting time for the purpose of setting a bound or thresholds on performance metrics

that are used for cooperative scheduling on multi-tasking system performance (Pg 526, right column, second paragraph; Abstract). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott where number of connections are reduced if the average of task completion is larger than a threshold, with tracking the average of averages of task performance characteristics, as taught by Spark, such that bound (or the thresholds) on performance metrics are used for cooperative scheduling.

13. As per claims 2, 14, 17, 27, Abbott does not specifically teach wherein the first queue and the second queue are circular queues. However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to use any types of queue, which include circular queues.

14. As per claims 3, 13, 25, Abbott teaches a timer to compute a length of time a connection is used (Table 2).

15. As per claims 4, 16, 26, 29, Abbott does not specifically teach wherein the average of the first queue is added to the second queue. However it would have been obvious for one having ordinary skill in the art at the time of the applicant's invention to add the average into the second queue of averages since the second queue is specifically used to track the average of averages.

16. As per claims 5, 18, 21, 23, Abbott teaches a trigger mechanism to trigger a comparison (Column 26, lines 36-44).

17. As per claims 6, 24, Abbott does not specifically teach a powers array to indicate when to trigger a comparison to the trigger mechanism, the powers array being an exponentially increasing/decreasing function. However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott with a power array since for any trigger mechanism, there needs to be an object that governs when the trigger starts.

18. As per claims 7, 11, Abbott teaches a sensitivity multiplier applied to the average of the second queue to affect reaction speed (Column 24, lines 24-27, lines 46-67).

19. As per claim 8, Abbott teaches wherein the connections comprise network connections for sending messages, and wherein the apparatus comprises a multimedia messaging service center (Column 6, lines 28-35; Column 7, lines 1-5).

20. As per claims 9, 30, Abbott teaches wherein the rate of task completion tracked by the system comprises timing one subtask of a complex task, the subtask reflecting a load on the system (Column 26, lines 36-45).

21. As per claim 22, Abbott does not specifically teach adjusting the comparison trigger based on results of a last comparison.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to adjust the comparison trigger based on results of a last comparison since adjusting threshold triggers is generally done to accommodate dynamic changes in task management.

22. As per claim 28, Abbott teaches wherein the average of the first queue and the average of the second queue are calculated when a comparison is triggered (Column 25, lines 50-53; Column 26, lines 8-10, lines 36-43).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to MengYao Zhe whose telephone number is 571-272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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PRIMARY EXAMINER